IT IS CLAIMED:

Sub A7

1. A method of treating a lesion at a neurovascular target vessel site, comprising

guiding a neuro-interventional catheter to the target site,

advancing through the catheter, a stent adapted for advancement through a catheter in an upstream to downstream direction to the target site in a contracted stent condition, and with expulsion from the catheter, downstream end first, and radial expansion at the target site, to engage the walls of the vessel,

said stent having a bending-stiffness gradient (define) along its length due to one or more of the following:

(i) a gradient of ribbon width;

(ii) a gradient of ribbon thickness;

(iii) a gradient of size or number of openings formed in the stent ribbon, and

expelling the stent from the catheter at the target site, causing the stent to expand radially against the vessel walls at the target site.

2. The method of claim 1, wherein said guiding includes engaging a pusher wire with the stent, pushing the stent through the catheter with the pusher wire, and expelling the stent from the catheter at the target site, with stent radial expansion at the target site being effective to release the stent from the pusher wire.

Sub A8

3. The method of claim 2, wherein the stent wherein the stent is relasably attached to the pusher wire, for release therefrom, when the stent is released and extands to its expanded condition.

4. The method of 1, wherein the stent has a contracted-condition diameter of between about 10 and 30 mils, and a diameter in a fully expanded condition of between 40 and 125 mils.

Sub a9

5. The method of claim 1, wherein the stiffness gradient in the stent is due to a gradient of ribbon width, lesser ribbon width at the upstream end of the stent, and greater ribbon width at the downstream end of the stent, where the greater ribbon width is (i) at least ten times the ribbon thickness and (ii) at least two times the lesser width,

said greater ribbon being effective to reduce the rate of expansion of the stent from its contracted to its radially extended condition, relative to that of a stent having uniform winding widths equal to the lesser ribbon widths,

said lesser ribbon width being effective to increase the angle of catheter bend through which the catheter can be advanced, in an upstream to downstream direction, relative to that of a stent having uniform winding widths equal to the greater ribbon width.

6. The method of claim 5, wherein the stent ribbon thickness is between 0.5 and 2 mils, the greater ribbon width is between 25 and 75 mils, and the lesser ribbon width is between 5 and 15 mils.

Sub a10

7. The method of claim 1, wherein the stent openings are I-beam shaped openings whose "I" axis is aligned transversely to the longitudinal axis of the stent in the contracted state, or Z-shaped openings whose central axis is aligned transversely to the longitudinal axis of the stent in the contracted state.

8. The method of claim 1, wherein the stent helical ribbon is effective to cover between 50% and 80% of the surface area of the vessel region containing the stent.